

Our 111th year of serving the Carbondale area -- home of John Borosky

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p. 1 From oil tanks to perforated metals

## Eli E. Hendrick's company has been important component of local economy for over 100 years

By S. ROBERT POWELL

Note: Part 1 of this two-part portrait of E.E. Hendrick and the Hendrick Manufacturing Company was published in the June 8 issue of the NEWS.

In 1879, E. E. Hendrick conceived the idea of making oil tanks from light iron with lead joint seams and removable bottoms, and constructing the bulky vessels so that they could be shipped "knocked down" -- all ready to be put together when they reached their destination. To put this new industry into operation he remodeled the old cooper shop on Dundaff Street, wherein he established a small machine shop in that year, procured the machinery necessary and the venture was a success from the start.

During the same year, 1879, he invented not only a process by which paraffin could be removed from petroleum but also the mechanical appliances used in that connection. The process involved the freezing of petroleum distillates, and for this purpose, a huge refrigerator, which was supplied with great coils of pipe, was constructed. The refrigerator was then filled with ice and the oil was reduced to the proper temperature while passing through the coils. He soon decided that the process had to be improved upon in order to make the separation of paraffin possible all year round, and this led to the invention of his refrigerating and ice making machines. An experimental ice making plant was erected and operated successfully for about two years when E. E. Hendrick engaged in the manufacture of ice machines. The first ice machine constructed was shipped to Los Angeles. A 15-ton machine was built for the Stowers Packing Company in Scranton and a similar machine was built for A.S. Patten & Bro. of Binghamton. In the year 1889, A.P. Trautwein, a skilled mechanical engineer who was interested in the manufacture of the Pontifex ice machine, a formidable competitor of the Hendrick machine, associated himself with E. E. Hendrick and the Hendrick Manufacturing Company began the manufacture of the Pontifex machines with the Hendrick improvements. In the 1890s, the company was manufacturing refrigerating and ice making machines with a

capacity varying from one ton to 50 tons daily. These ice making machines were sold throughout the United States and North America. In Carbondale, the Krantz Brewery was equipped with a Hendrick refrigerating machine, as was the Rivenburg abattoir in Fell Township.

### PERFORATED METALS

E. E. Hendrick entered into the manufacture of perforated metals in the following manner. The filters used in the 1870s in the oil refining process were very inefficient and did not last very long. They were composed of mats of woven wire and canvas. In constant use, the wire eventually was abraded to the point where it pierced the canvas, reducing the efficiency of the filter. Hendrick concluded that if he could take a piece of sheet iron and drill holes through it, the resulting screen would be flat, with no high spots to wear through and pierce the canvas. A few screens were made by drilling one hole at a time. This method produced a very satisfactory product, but the cost of production was too high. A multiple drill press was tried, but this process was still too costly. E. E. Hendrick then conceived the idea of punching a row of holes across the full width of the sheet at one strike. He immediately began the design and construction of a machine for that purpose, building it mostly from second-hand parts. The machine,

improved with the addition of a device to feed the sheet through the machine so as to space the rows of holes correctly, was the forerunner of the modern perforating process.

The creativity of E. E. Hendrick in the realm of industrial technology was extraordinary. In the period 1867-1905, no less than fifteen patents were awarded to him, namely: improved method of drying gunpowder; improvement in setter, gauge and cases for sewing machine needles; improvement in needle setters, needle sharpeners, needle cases and rippers; improvement in lock hinges for tables; improvement in lubricating oil compounds; process and tools for uniting sheets of foil; storage tanks; couplings for joining pipes; design for a filter-press ring; filter presses; shaft couplings; and screens.

All of these patents were awarded for seventeen years, with the exception of the patent for a design for a filter-press ring, which was granted for a period of fourteen years.

**HENDRICK MANUFACTURING COMPANY**  
E. E. Hendrick's company was originally owned wholly by its founder. It passed through several unincorporated forms until 1889, when the

continued on page 4

No 15 patents

No dates and numbers of these patents were originally included in the article as submitted to Rosemary Beth. They were edited out, I regret to say.

1. Improved method of drying gunpowder, Nov. 19, 1867, # 71004
2. Improvement in setter, gauge, and cases for sewing machine needles, June 7, 1870, # 104030.
3. Improvement in stamp - cancellers, June 14, 1870, # 104148
4. Improvement in needle setter, needle sharpeners, needle cases and rippers, May 16, 1871, # 114815
5. Improvement in lock hinges for tables, etc., March 12, 1872, # 124438
6. Improvement in lubricating oil compounds, Nov. 13, 1877, # 197129
7. Process and tools for uniting sheets of foil, Nov. 9, 1880, # 234184
8. Storage tanks, November 9, 1880, # 234185
9. Couplings for joining paper, June 21, 1887, # 365068
10. Design for a filter-press ring, Nov. 28, 1893, # 22918
11. Filter presser, April 5, 1898, # 601833
12. Filter presser, October 4, 1898, # 612105
13. Shaft couplings, Nov. 26, 1901, # 687563
14. Screen, June 6, 1905, # 791782
15. Screens, June 6, 1905, # 791783.